



2020

# NTP Publications in FY 2020

APPENDIX I

# NTP Reports and Documents

## NTP Monographs

National Toxicology Program (NTP). 2019. NTP monograph on the systematic review of traffic-related air pollution and hypertensive disorders of pregnancy. Research Triangle Park, NC: National Toxicology Program. NTP Monograph 07. <https://doi.org/10.22427/NTP-MGRAPH-7>.

## Toxicity Reports

National Toxicology Program (NTP). 2020. NTP technical report on the toxicity studies of a gum guggul extract formulation administered by gavage to Sprague Dawley (Hsd:Sprague Dawley® SD®) rats and B6C3F1/N mice. Research Triangle Park, NC: National Toxicology Program. Toxicity Report 99. <https://doi.org/10.22427/NTP-TOX-99>.

National Toxicology Program (NTP). 2019. NTP technical report on the toxicity studies of 1020 long multiwalled carbon nanotubes (L-MWNT-1020) administered by inhalation to Sprague Dawley (Hsd:Sprague Dawley® SD®) rats and B6C3F1/N mice. Research Triangle Park, NC: National Toxicology Program. Toxicity Report 94. <https://doi.org/10.22427/NTP-TOX-94>.

National Toxicology Program (NTP). 2020. NTP technical report on the toxicity studies of abrasive blasting agents administered by inhalation to F344/NTac rats and Sprague Dawley (Hsd:Sprague Dawley® SD®) rats. Research Triangle Park, NC: National Toxicology Program. Toxicity Report 91. <https://doi.org/10.22427/NTP-TOX-91>.

National Toxicology Program (NTP). 2020. NTP technical report on the toxicity studies of fullerene C60 (1 µm and 50 nm) (CASRN 99685-96-8) administered by nose-only inhalation to Wistar Han [Crl:WI (Han)] rats and B6C3F1/N mice. Research Triangle Park, NC: National Toxicology Program. Toxicity Report 87. <https://doi.org/10.22427/NTP-TOX-87>.

## Technical Reports

National Toxicology Program (NTP). 2020. NTP technical report on the toxicology and carcinogenesis studies of perfluorooctanoic acid (CASRN 335-67-1) administered in feed to Sprague Dawley (Hsd:Sprague Dawley® SD®) rats. Research Triangle Park, NC: National Toxicology Program. Technical Report 598. <https://doi.org/10.22427/NTP-TR-598>.

National Toxicology Program (NTP). 2020. NTP technical report on the toxicology and carcinogenesis studies of 2-hydroxy-4-methoxybenzophenone (CASRN 131-57-7) administered in feed to Sprague Dawley (Hsd:Sprague Dawley® SD®) rats and B6C3F1/N mice. Research Triangle Park, NC: National Toxicology Program. Technical Report 597. <https://doi.org/10.22427/NTP-TR-597>.

## **Research Reports**

National Toxicology Program (NTP). 2020. NTP research report on the scoping review of prenatal exposure to progestogens and adverse health outcomes. Research Triangle Park, NC: National Toxicology Program. Research Report 17. <https://doi.org/10.22427/NTP-RR-17>.

Boyd WA, Blain RB, Skuce CR, Thayer KA, Rooney AA. 2020. NTP research report on the scoping review of paraquat dichloride exposure and Parkinson's disease. Research Triangle Park, NC: National Toxicology Program. Research Report 16. <https://doi.org/10.22427/NTP-RR-16>.

Boyd WA, Boyles AL, Blain RB, Skuce CR, Engstrom AK, Walker VR, Thayer KA, Rooney AA. 2020. NTP research report on the scoping review of potential human health effects associated with exposures to neonicotinoid pesticides. Research Triangle Park, NC: National Toxicology Program. Research Report 15. <http://dx.doi.org/10.22427/NTP-RR-15>.

## **Developmental and Reproductive Toxicity Reports**

National Toxicology Program (NTP). 2020. NTP developmental and reproductive toxicity technical report on the prenatal development studies of dimethylaminoethanol bitartrate (CASRN 5988-51-2) in Sprague Dawley (Hsd:Sprague Dawley® SD®) rats (gavage studies). Research Triangle Park, NC: National Toxicology Program. DART Report 04. <https://doi.org/10.22427/NTP-DART-04>.

National Toxicology Program (NTP). 2020. NTP developmental and reproductive toxicity technical report on the prenatal development studies of vincocetine (CASRN 42971-09-5) in Sprague Dawley (Hsd:Sprague Dawley® SD®) rats and New Zealand White (Hra:Nzw Spf) rabbits (gavage studies). Research Triangle Park, NC: National Toxicology Program. DART Report 03. <https://doi.org/10.22427/NTP-DART-03>.

National Toxicology Program (NTP). 2020. NTP developmental and reproductive toxicity technical report on the prenatal development studies of 4-methylcyclohexanemethanol (CASRN 34885-03-5) in Sprague Dawley (Hsd:Sprague Dawley® SD®) rats (gavage studies). Research Triangle Park, NC: National Toxicology Program. DART Report 02. <https://doi.org/10.22427/NTP-DART-02>.

National Toxicology Program (NTP). 2020. NTP developmental and reproductive toxicity report on the prenatal development studies of tris(chloropropyl) phosphate (CASRN 13674-84-5) in Sprague Dawley (Hsd:Sprague Dawley® SD®) rats (gavage studies). Research Triangle Park, NC: National Toxicology Program. DART Report 01. <https://doi.org/10.22427/NTP-DART-01>.

## **Immunotoxicity Reports**

National Toxicology Program (NTP). 2020. NTP immunotoxicity technical report on the dermal hypersensitivity and irritancy studies of 4-methylcyclohexanemethanol (CASRN 34885-03-5) and crude 4-methylcyclohexanemethanol administered topically to female BALB/c mice. Research Triangle Park, NC: National Toxicology Program. Immunotoxicity Report 01. <https://doi.org/10.22427/NTP-IMM-01>.

## Journal Articles and Book Chapters

Research funding sources for each publication are indicated as follows:

- [1] Funded by the NIEHS/NIOSH Interagency Agreement
- [2] Funded by NIOSH voluntary allocations to NTP
- [3] Funded by the NIEHS/NCTR Interagency Agreement
- [4] Funded by NCTR voluntary allocations to NTP
- [5] Funded by NIEHS voluntary allocations to NTP

- Adler R, Clark E, Cline M, Conner M, Crabbs T, Fossey S, Malarkey D, Meseck E, Vernau W, Tornquist S, et al. Mission accomplished: The ACVP/STP coalition for veterinary pathology fellows completes its objectives, but its legacy and spirit live on. *Vet Pathol.* 2020; 57(4):472-475. <https://doi.org/10.1177/0300985820918314> [5]
- Ahn Y, Gibson B, Williams A, Alusta P, Buzatu DA, Lee YJ, LiPuma JJ, Hussian D, Marasa B, Cerniglia CE. A comparison of culture-based, real-time PCR, droplet digital PCR and flow cytometric methods for the detection of Burkholderia cepacia complex in nuclease-free water and antiseptics. *J Ind Microbiol Biotechnol.* 2020; 47(6-7):475-484. <https://doi.org/10.1007/s10295-020-02287-3> [4]
- Ahn Y, Lee UJ, Lee YJ, LiPuma JJ, Hussian D, Marasa B, Cerniglia CE. Oligotrophic media compared with a tryptic soy agar or broth for the recovery of burkholderia cepacia complex from different storage temperatures and culture conditions. *J Microbiol Biotechnol.* 2019; 29(10):1495-1505. <https://doi.org/10.4014/jmb.1906.06024> [4]
- Akl EA, Morgan RL, Rooney AA, Beverly B, Katikireddi SV, Agarwal A, Alper BS, Alva-Diaz C, Amato L, Ansari MT, et al. Developing trustworthy recommendations as part of an urgent response (1-2 weeks): A GRADE concept paper. GRADE Rapid Guidelines project group. *J Clin Epidemiol.* 2020; 129:1-11. <https://doi.org/10.1016/j.jclinepi.2020.09.037> [5]
- Alves VM, Bobrowski T, Melo-Filho CC, Korn D, Auerbach S, Schmitt C, Muratov EN, Tropsha A. QSAR modeling of SARS-CoV Mpro inhibitors identifies Sufugolix, Cenicriviroc, Proglumetacin, and other drugs as candidates for repurposing against SARS-CoV-2. *Mol Inform.* 2020; 40(1). <https://doi.org/10.1002/minf.202000113> [5]
- Anderson SE, Baur R, Kashon M, Lukomska E, Weatherly L, Shane HL. Potential classification of chemical immunologic response based on gene expression profiles. *J Immunotoxicol.* 2020; 17(1):122-134. <https://doi.org/10.1080/1547691x.2020.1758855> [2]
- Anderson SE, Weatherly L, Shane HL. Contribution of antimicrobials to the development of allergic disease. *Curr Opin Immunol.* 2019; 60:91-95. <https://doi.org/10.1016/j.coi.2019.05.003> [2]
- Antonini JM, Kodali V, Shoeb M, Kashon M, Roach KA, Boyce G, Meighan T, Stone S, McKinney W, Boots T, et al. Effect of a high-fat diet and occupational exposure in different rat strains on lung and systemic responses: Examination of the exposome in an animal model. *Toxicol Sci.* 2020; 174(1):100-111. <https://doi.org/10.1093/toxsci/kfz247> [2]
- Arnold MG, Gokulan K, Doerge DR, Vanlandingham M, Cerniglia CE, Khare S. A single or short time repeated arsenic oral exposure in mice impacts mRNA expression for signalling and immunity related genes in the gut. *Food Chem Toxicol.* 2019; 132:110597. <https://doi.org/10.1016/j.fct.2019.110597> [3]
- Arroyave WD, Mehta SS, Guha N, Schwengl P, Taylor KW, Glenn B, Radke EG, Vilahur N, Carreón T, Nachman RM, et al. Challenges and recommendations on the conduct of systematic reviews of observational epidemiologic studies in environmental and occupational health. *J Expo Sci Environ Epidemiol.* 2020; 31(1):21-30. <https://doi.org/10.1038/s41370-020-0228-0> [5]
- ASTM E3238. Standard test method for quantitative measurement of the chemoattractant capacity of a nanoparticulate material in vitro. <https://www.astm.org/Standards/E3238.htm>. [3]
- Atwood ST, Lunn RM, Garner SC, Jahnke GD. New perspectives for cancer hazard evaluation by the Report on Carcinogens: A case study using read-across methods in the evaluation of haloacetic acids found as water disinfection by-products. *Environ Health Perspect.* 2019; 127(12):125003. <https://doi.org/10.1289/ehp5672> [5]
- Axelrad DA, Setzer RW, Bateson TF, DeVito M, Dzubow RC, Fitzpatrick JW, Frame AM, Hogan KA, Houck K, Stewart M. Methods for evaluating variability in human health dose-response characterization. *Hum Ecol Risk Assess.* 2020; 26(7):1755-1778. <https://doi.org/10.1080/10807039.2019.1615828> [5]
- Bangma J, Szilagyi J, Blake BE, Plazas C, Kepper S, Fenton SE, Fry RC. An assessment of serum-dependent impacts on intracellular accumulation and genomic response of per- and polyfluoroalkyl substances in a placental trophoblast model. *Environ Toxicol.* 2020; 35(12):1395-1405. <https://doi.org/10.1002/tox.23004> [5]
- Behl M, Willson CJ, Cunny H, Foster PMD, McIntyre B, Shackelford C, Shockley KR, McBride S, Turner K, Waidyanatha S, et al. Multigenerational reproductive assessment of 4-methylimidazole administered in the diet to Hsd:Sprague Dawley SD rats. *Reprod Toxicol.* 2020; 98:13-28. <https://doi.org/10.1016/j.reprotox.2020.03.005> [5]
- Belcher SM, Cline JM, Conley J, Groeters S, Jefferson WN, Law M, Mackey E, Suen AA, Williams CJ, Dixon D, et al. Endocrine disruption and reproductive pathology. *Toxicol Pathol.* 2019; 47(8):1049-1071. <https://doi.org/10.1177/0192623319879903> [5]
- Bell S, Abedini J, Ceger P, Chang X, Cook B, Karmaus AL, Lea I, Mansouri K, Phillips J, McAfee E, et al. An integrated chemical environment with tools for chemical safety testing. *Toxicol In Vitro.* 2020; 67:104916. <https://doi.org/10.1016/j.tiv.2020.104916> [5]
- Bemis JC, Heflich RH. In vitro mammalian cell mutation assays based on the Pig-a gene: A report of the 7th International Workshop on Genotoxicity Testing (IWGT) Workgroup. *Mutat Res.* 2019; 847:403028. <https://doi.org/10.1016/j.mrgentox.2019.03.001> [4]

- Blake BE, Cope HA, Hall SM, Keys RD, Mahler BW, McCord J, Scott B, Stapleton HM, Strynar MJ, Elmore SA, et al. Evaluation of maternal, embryo, and placental effects in CD-1 mice following gestational exposure to perfluorooctanoic acid (PFOA) or hexafluoropropylene oxide dimer acid (HFPO-DA or GenX). *Environ Health Perspect.* 2020; 128(2):27006. <https://doi.org/10.1289/ehp6233> [5]
- Blake BE, Fenton SE. Early life exposure to per- and polyfluoroalkyl substances (PFAS) and latent health outcomes: A review including the placenta as a target tissue and possible driver of peri- and postnatal effects. *Toxicology.* 2020; 443:152565. <https://doi.org/10.1016/j.tox.2020.152565> [5]
- Bobrowski T, Melo-Filho CC, Korn D, Alves VM, Popov Kl, Auerbach S, Schmitt C, Moorman NJ, Muratov EN, Tropsha A. Learning from history: Do not flatten the curve of antiviral research! *Drug Discov Today.* 2020; 25(9):1604-1613. <https://doi.org/10.1016/j.drudis.2020.07.008> [5]
- Boobis AR, Cerniglia CE, Schefferlie GJ, Chicoine A, Cressey P, Sanders P, Scheid S. 2020. Evaluation of certain veterinary drug residues in food: Eighty-eighth report of the Joint FAO/WHO Expert Committee on Food Additives. Geneva: World Health Organization. [4]
- Borba JVB, Braga RC, Alves VM, Muratov EN, Kleinstreuer N, Tropsha A, Andrade CH. Pred-Skin: A web portal for accurate prediction of human skin sensitizers. *Chem Res Toxicol.* 2020; 34(2):258-267. <https://doi.org/10.1021/acs.chemrestox.0c00186> [5]
- Borrel A, Auerbach SS, Houck KA, Kleinstreuer NC. Tox21BodyMap: A webtool to map chemical effects on the human body. *Nucleic Acids Res.* 2020; 48(1):472-476. <https://doi.org/10.1093/nar/gkaa433> [5]
- Borrel A, Huang R, Sakamuru S, Xia M, Simeonov A, Mansouri K, Houck KA, Judson RS, Kleinstreuer NC. High-throughput screening to predict chemical-assay interference. *Sci Rep.* 2020; 10(1):3986. <https://doi.org/10.1038/s41598-020-60747-3> [5]
- Borrel A, Mansouri K, Nolte S, Saddler T, Conway M, Schmitt C, Kleinstreuer NC. InterPred: A webtool to predict chemical autofluorescence and luminescence interference. *Nucleic Acids Res.* 2020; 48(1):586-590. <https://doi.org/10.1093/nar/gkaa378> [5]
- Bowen C, Childers G, Perry C, Martin N, McPherson CA, Lauten T, Santos J, Harry GJ. Mitochondrial-related effects of pentabromophenol, tetrabromobisphenol A, and triphenyl phosphate on murine BV-2 microglia cells. *Chemosphere.* 2020; 255:126919. <https://doi.org/10.1016/j.chemosphere.2020.126919> [5]
- Bowyer JF, Sarkar S, Burks SM, Hess JN, Tolani S, O'Callaghan JP, Hanig JP. Microglial activation and responses to vasculature that result from an acute LPS exposure. *Neurotoxicology.* 2020; 77:181-192. <https://doi.org/10.1016/j.neuro.2020.01.014> [4]
- Boyce G, Shoeb M, Kodali V, Meighan T, Roberts JR, Erdely A, Kashon M, Antonini JM. Using liquid chromatography mass spectrometry (LC-MS) to assess the effect of age, high-fat diet, and rat strain on the liver metabolome. *PLoS One.* 2020; 15(7):e0235338. <https://doi.org/10.1371/journal.pone.0235338> [2]
- Boyce GR, Shoeb M, Kodali V, Meighan TG, Roach KA, McKinney W, Stone S, Powell MJ, Roberts JR, Zeidler-Erdely PC, et al. Welding fume inhalation exposure and high-fat diet change lipid homeostasis in rat liver. *Toxicol Rep.* 2020; 7:1350-1355. <https://doi.org/10.1016/j.toxrep.2020.10.008> [2]
- Bradley AE, Bolon B, Butt MT, Cramer SD, Czasch S, Garman RH, George C, Groters S, Kaufmann W, Kovi RC, et al. Proliferative and nonproliferative lesions of the rat and mouse central and peripheral nervous systems: New and revised INHAND terms. *Toxicol Pathol.* 2020; 48(7):827-844. <https://doi.org/10.1177/0192623320951154> [5]
- Bradley PM, Argos M, Kolpin DW, Meppelink SM, Romanok KM, Smalling KL, Focazio MJ, Allen JM, Dietze JE, Devito MJ, et al. Mixed organic and inorganic tapwater exposures and potential effects in greater Chicago area, USA. *Sci Total Environ.* 2020; 719:137236. <https://doi.org/10.1016/j.scitotenv.2020.137236> [5]
- Brown KK, Norton AE, Neu DT, Shaw PB. Robotic direct reading device with spatial, temporal, and PID sensors for laboratory VOC exposure assessment. *J Occup Environ Hyg.* 2019; 16(11):717-726. <https://doi.org/10.1080/15459624.2019.1657580> [2]
- Brown PR, Gillera SEA, Fenton SE, Yao HH. Developmental exposure to tetrabromobisphenol A has minimal impact on male rat reproductive health. *Reprod Toxicol.* 2020; 95:59-65. <https://doi.org/10.1016/j.reprotox.2020.05.003> [5]
- Brozek JL, Canelo-Ayarbarri C, Akli EA, Bowen JM, Bucher J, Chiu WA, Cronin M, Djulbegovic B, Falavigna M, Guyatt GH, et al. GRADE Guidelines 30: The GRADE approach to assessing the certainty of modelled evidence—an overview in the context of health decision-making. *J Clin Epidemiol.* 2020; 129:138-150. <https://doi.org/10.1016/j.jclinepi.2020.09.018> [5]
- Buick JK, Williams A, Gagne R, Swartz CD, Recio L, Ferguson SS, Yauk CL. Flow cytometric micronucleus assay and TGx-DDI transcriptomic biomarker analysis of ten genotoxic and non-genotoxic chemicals in human HepaRG cells. *Genes Environ.* 2020; 42:5. <https://doi.org/10.1186/s41021-019-0139-2> [5]
- Burkholder A, Akrobetu D, Pandiri AR, Ton K, Kim S, Labow BI, Nuzzi LC, Firriolo JM, Schneider SS, Fenton SE, et al. Investigation of the adolescent female breast transcriptome and the impact of obesity. *Breast Cancer Res.* 2020; 22(1):44. <https://doi.org/10.1186/s13058-020-01279-6> [5]
- Burks SM, Bowyer JF, Walters JL, Talpos JC. Regions of the basal ganglia and primary olfactory system are most sensitive to neurodegeneration after extended sevoflurane anesthesia in the perinatal rat. *Neurotoxicol Teratol.* 2020; 80:106890. <https://doi.org/10.1016/j.ntt.2020.106890> [4]
- Bushel PR, Caiment F, Wu H, O'One R, Day F, Calley J, Smith A, Li J, Harrill AH. RATEmiRs: The rat atlas of tissue-specific and enriched miRNAs for discerning baseline expression exclusivity of candidate biomarkers. *RNA Biol.* 2020; 17(5):630-636. <https://doi.org/10.1080/15476286.2020.1724715> [5]
- Bushel PR, Ferguson SS, Ramaiahgari SC, Paules RS, Auerbach SS. Comparison of normalization methods for analysis of TempO-Seq targeted RNA sequencing data. *Front Genet.* 2020; 11:594. <https://doi.org/10.3389/fgene.2020.00594> [5]
- Camacho L, Latendresse JR, Muskhelishvili L, Law CD, Delclos KB. Effects of intravenous and oral di(2-ethylhexyl) phthalate (DEHP) and 20% Intralipid vehicle on neonatal rat testis, lung, liver, and kidney. *Food Chem Toxicol.* 2020; 144:111497. <https://doi.org/10.1016/j.fct.2020.111497> [3]
- Camacho L, Lewis SM, Vanlandingham MM, Olson GR, Davis KJ, Patton RE, Twaddle NC, Doerge DR, Churchwell MI, Bryant MS, et al. A two-year toxicology study of bisphenol A (BPA) in Sprague-Dawley rats: CLARITY-BPA core study results. *Food Chem Toxicol.* 2019; 132:110728. <https://doi.org/10.1016/j.fct.2019.110728> [3]
- Carroll AP, Salatini R, Pirela SV, Wang Y, Xie Z, Lorkiewicz P, Naeem N, Qian Y, Castranova V, Godleski JJ, et al. Inhalation of printer-emitted particles impairs cardiac conduction, hemodynamics, and autonomic regulation and induces arrhythmia and electrical remodeling in rats. *Part Fibre Toxicol.* 2020; 17(1):7. <https://doi.org/10.1186/s12989-019-0335-z> [2]

- Chen S, Wu Q, Li X, Li D, Fan M, Ren Z, Bryant M, Mei N, Ning B, Guo L. The role of hepatic cytochrome P450s in the cytotoxicity of sertraline. *Arch Toxicol.* 2020; 94(7):2401–2411. <https://doi.org/10.1007/s00204-020-02753-y> [4]
- Chen SH, Papaneri A, Walker M, Scappini E, Keys RD, Martin NP. A simple, two-step, small-scale purification of recombinant adeno-associated viruses. *J Virol Methods.* 2020; 281:113863. <https://doi.org/10.1016/j.jviromet.2020.113863> [5]
- Choksi N, Lebrun S, Nguyen M, Daniel A, DeGeorge G, Willoughby J, Layton A, Lowther D, Merrill J, Matheson J, et al. Validation of the OptiSafe™ eye irritation test. *Cutan Ocul Toxicol.* 2020;1–42. <https://doi.org/10.1080/15569527.2020.1787431> [5]
- Chon JW, Lee UJ, Bensen R, West S, Paredes A, Lim J, Khan S, Hart ME, Phillips KS, Sung K. Virulence characteristics of mecA-positive multidrug-resistant clinical coagulase-negative staphylococci. *Microorganisms.* 2020; 8(5). <https://doi.org/10.3390/microorganisms8050659> [4]
- Collins BJ, Kerns SP, Aillon K, Mueller G, Rider CV, DeRose EF, London RE, Harnly JM, Waidyanatha S. Comparison of phytochemical composition of Ginkgo biloba extracts using a combination of non-targeted and targeted analytical approaches. *Anal Bioanal Chem.* 2020; 412(25):6789–6809. <https://doi.org/10.1007/s00216-020-02839-7> [5]
- Cora MC, Janardhan KS, Jensen H, Clayton N, Travlos GS. Previously diagnosed reticulum cell hyperplasia in decalcified rat bone marrow stain positive for ionized calcium binding adapter molecule 1 (Iba1): A monocytic/macrophage cell marker. *Toxicol Pathol.* 2019; 48(2):317–322. <https://doi.org/10.1177/0192623319890610> [5]
- Couch JR, Grimes GR, Green BJ, Wiegand DM, King B, Methner MM. Review of NIOSH cannabis-related health hazard evaluations and research. *Ann Work Expo Health.* 2020; 64(7):693–704. <https://doi.org/10.1093/annweh/wxa013> [2]
- Couch JR, Grimes GR, Wiegand DM, Green BJ, Glassford EK, Zwack LM, Lemons AR, Jackson SR, Beezhold DH. Potential occupational and respiratory hazards in a Minnesota cannabis cultivation and processing facility. *Am J Ind Med.* 2019; 62(10):874–882. <https://doi.org/10.1002/ajim.23025> [2]
- Coyle JP, Derk RC, Kornberg TG, Singh D, Jensen J, Friend S, Mercer R, Stueckle TA, Demokritou P, Rojanasakul Y, et al. Carbon nanotube filler enhances incinerated thermoplastics-induced cytotoxicity and metabolic disruption in vitro. *Part Fibre Toxicol.* 2020; 17(1):40. <https://doi.org/10.1186/s12989-020-00371-1> [2]
- Croston TL, Lemons AR, Barnes MA, Goldsmith WT, Orandle MS, Nayak AP, Germolec DR, Green BJ, Beezhold DH. Inhalation of Stachybotrys chartarum fragments induces pulmonary arterial remodeling. *Am J Respir Cell Mol Biol.* 2020; 62(5):563–576. <https://doi.org/10.1165/rmbc.2019-0221OC> [1]
- Cuevas E, Rosas-Hernandez H, Burks SM, Ramirez-Lee MA, Guzman A, Imam SZ, Ali SF, Sarkar S. Amyloid beta 25–35 induces blood-brain barrier disruption in vitro. *Metab Brain Dis.* 2019; 34(5):1365–1374. <https://doi.org/10.1007/s11011-019-00447-8> [4]
- Cummings KJ, Stanton ML, Kreiss K, Boylstein RJ, Park JH, Cox-Ganser JM, Virji MA, Edwards NT, Segal LN, Blaser MJ, et al. Work-related adverse respiratory health outcomes at a machine manufacturing facility with a cluster of bronchiolitis, alveolar ductitis and emphysema (BADE). *Occup Environ Med.* 2020; 77(6):386–392. <https://doi.org/10.1136/oemed-2019-106296> [2]
- Cummings KJ, Stanton ML, Nett RJ, Segal LN, Kreiss K, Abraham JL, Colby TV, Franko AD, Green FHY, Sanyal S, et al. Severe lung disease characterized by lymphocytic bronchiolitis, alveolar ductitis, and emphysema (BADE) in industrial machine-manufacturing workers. *Am J Ind Med.* 2019; 62(11):927–937. <https://doi.org/10.1002/ajim.23038> [2]
- Cupul-Uicab LA, Bonnman R, Archer JI, Kudumu MO, Travlos GS, Wilson RE, Whitworth KW. Exposure to DDT from indoor residual spraying and biomarkers of inflammation among reproductive-aged women from South Africa. *Environ Res.* 2020; 191:110088. <https://doi.org/10.1016/j.envres.2020.110088> [5]
- Daniels JR, Cao Z, Maisha M, Schnackenberg LK, Sun J, Pence L, Schmitt TC, Kamlage B, Rogstad S, Beger RD, et al. Stability of the human plasma proteome to pre-analytical variability as assessed by an aptamer-based approach. *J Proteome Res.* 2019; 18(10):3661–3670. <https://doi.org/10.1021/acs.jproteome.9b00320> [4]
- de Conti A, Pogribny IP, Ross SA. Nutrition, epigenetics and cancer prevention. In: Ong TP, Moreno FS, editors. *Nutrition and cancer prevention: from molecular mechanisms to dietary recommendations.* Cambridge: Royal Soc Chemistry; 2020. p. 183–206. [4]
- de Conti A, Tryndyak V, Willett RA, Borowa-Mazgaj B, Watson A, Patton R, Khare S, Muskhelishvili L, Olson GR, Avigan MI, et al. Characterization of the variability in the extent of nonalcoholic fatty liver induced by a high-fat diet in the genetically diverse Collaborative Cross mouse model. *FASEB J.* 2020; 34(6):7773–7785. <https://doi.org/10.1096/fj.202000194R> [4]
- Demir E, Qin T, Li Y, Zhang Y, Guo X, Ingle T, Yan J, Orza AI, Biris AS, Ghorai S, et al. Cytotoxicity and genotoxicity of cadmium oxide nanoparticles evaluated using in vitro assays. *Mutat Res.* 2020; 850–851:503149. <https://doi.org/10.1016/j.mrgentox.2020.503149> [4]
- Dobrovolsky VN, Cao X, Bhalli JA, Heflich RH. Detection of Pig-a mutant erythrocytes in the peripheral blood of rats and mice. *Methods Mol Biol.* 2020; 2102:315–331. [https://doi.org/10.1007/978-1-0716-0223-2\\_18](https://doi.org/10.1007/978-1-0716-0223-2_18) [4]
- Dobrovolsky VN, Shaddock JG, Heflich RH. Analysis of in vivo mutation in the Hprt and Tk genes of mouse lymphocytes. *Methods Mol Biol.* 2020; 2102:333–348. [https://doi.org/10.1007/978-1-0716-0223-2\\_19](https://doi.org/10.1007/978-1-0716-0223-2_19) [4]
- Doerge DR, Twaddle NC, Churchwell MI, Beland FA. Reduction by ligand exchange among, and covalent binding to glutathione and cellular thiols link metabolism and disposition of dietary arsenic species with toxicity. *Env Int.* 2020; 144:106086. <https://doi.org/10.1016/j.envint.2020.106086> [3]
- Dorea JG, Fenton SE. Estimating risk of neurotoxicity from early life exposure: Human milk is an appropriate matrix, but messages should not discourage breastfeeding. *Sci Total Environ.* 2019; 693:133665. <https://doi.org/10.1016/j.scitotenv.2019.133665> [5]
- Dunnick JK, Shockley KR, Morgan DL, Travlos GS, Gerrish K, Ton TT, Wilson R, Brar SS, Brix AE, Waidyanatha S, et al. Hepatic transcriptomic patterns in the neonatal rat after pentabromodiphenyl ether exposure. *Toxicol Pathol.* 2020; 48(2):338–349. <https://doi.org/10.1177/019262331988433> [5]
- Dzierlenga AL, Robinson VG, Waidyanatha S, DeVito MJ, Elfrid MA, Gibbs ST, Granville CA, Blystone CR. Toxicokinetics of perfluorohexanoic acid (PFHxA), perfluorooctanoic acid (PFOA) and perfluorodecanoic acid (PFDA) in male and female Hsd:Sprague Dawley SD rats following intravenous or gavage administration. *Xenobiotica.* 2020; 50(6):722–732. <https://doi.org/10.1080/00498254.2019.1683776> [5]
- Eberle CE, Sandler DP, Taylor KW, White AJ. Hair dye and chemical straightener use and breast cancer risk in a large US population of black and white women. *Int J Cancer.* 2019; 147(2):383–391. <https://doi.org/10.1002/ijc.32738> [5]

- Elmore SA, Blystone C, Lubeck BA, Harris SF, Johnson CL. The assessment of longitudinal sections of rat female reproductive tissues for NTP 2-year toxicity and carcinogenicity studies. *Toxicol Pathol.* 2020; 48(6):747-755. <https://doi.org/10.1177/0192623320948840> [5]
- Elmore SA, Kavari SL, Hoenerhoff MJ, Mahler B, Scott BE, Yabe K, Seely JC. Histology atlas of the developing mouse urinary system with emphasis on prenatal days E10.5-E18.5. *Toxicol Pathol.* 2019; 47(7):865-886. <https://doi.org/10.1177/0192623319873871> [5]
- Elmore SA, Weston EH. Predatory journals: What they are and how to avoid them. *Toxicol Pathol.* 2020; 48(4):607-610. <https://doi.org/10.1177/0192623320920209> [5]
- Estill CF, Slone J, Mayer A, Chen IC, La Guardia MJ. Worker exposure to flame retardants in manufacturing, construction and service industries. *Environ Int.* 2020; 135:105349. <https://doi.org/10.1016/j.envint.2019.105349> [1]
- Fabre K, Berridge B, Proctor WR, Ralston S, Will Y, Baran SW, Yoder G, Van Vleet TR. Introduction to a manuscript series on the characterization and use of microphysiological systems (MPS) in pharmaceutical safety and ADME applications. *Lab Chip.* 2020; 20(6):1049-1057. <https://doi.org/10.1039/c9lc01168d> [5]
- Fang J-L, Tang Y, Beland FA, Roffler SR. Flow cytometry analysis of anti-polyethylene glycol antibodies in human plasma. *Toxicol Rep.* 2020; 8:148-154. <https://doi.org/10.1016/j.toxrep.2020.12.022> [3]
- Farcas MT, McKinney W, Qi C, Mandler KW, Battelli L, Friend SA, Stefaniak AB, Jackson M, Orandle M, Winn A, et al. Pulmonary and systemic toxicity in rats following inhalation exposure of 3-D printer emissions from acrylonitrile butadiene styrene (ABS) filament. *Inhal Toxicol.* 2020; 32(11-12):403-418. <https://doi.org/10.1080/08958378.2020.1834034> [2]
- Farcas MT, Stefaniak AB, Knepp AK, Bowers L, Mandler WK, Kashon M, Jackson SR, Stueckle TA, Sisler JD, Friend SA, et al. Acrylonitrile butadiene styrene (ABS) and polycarbonate (PC) filaments three-dimensional (3-D) printer emissions-induced cell toxicity. *Toxicol Lett.* 2019; 317:1-12. <https://doi.org/10.1016/j.toxlet.2019.09.013> [2]
- Fent KW, LaGuardia M, Luellen D, McCormick S, Mayer A, Chen IC, Kerber S, Smith D, Horn GP. Flame retardants, dioxins, and furans in air and on firefighters' protective ensembles during controlled residential firefighting. *Environ Int.* 2020; 140:105756. <https://doi.org/10.1016/j.envint.2020.105756> [2]
- Fent KW, Toennis C, Sammons D, Robertson S, Bertke S, Calafat AM, Pleil JD, Wallace MAG, Kerber S, Smith D, et al. Firefighters' absorption of PAHs and VOCs during controlled residential fires by job assignment and fire attack tactic. *J Expo Sci Environ Epidemiol.* 2020; 30(2):338-349. <https://doi.org/10.1038/s41370-019-0145-2> [2]
- Fenton SE, Birnbaum LS. CHDS: A national treasure that keeps on giving. *Reprod Toxicol.* 2020; 92:11-13. <https://doi.org/10.1016/j.reprotox.2020.02.007> [5]
- Ferguson SA, Varma V, Sloper D, Panos JJ, Sarkar S. Increased inflammation in BA21 brain tissue from African Americans with Alzheimer's disease. *Metab Brain Dis.* 2020; 35(1):121-133. <https://doi.org/10.1007/s11011-019-00512-2> [4]
- Fisher JW, Wu H, Cohen-Wolkowicz M, Watt K, Wang J, Burkart GJ, Troutman JA, Yang X. Predicting the pharmacokinetics of piperacillin and tazobactam in preterm and term neonates using physiologically based pharmacokinetic modeling. *Comput Toxicol.* 2019; 12:100104. <https://doi.org/10.1016/j.comtox.2019.100104> [4]
- Frawley RP, Witt KL, Cunny H, Germolec DR, Jackson-Humbles D, Malarkey D, Shockley KR, Stout M, Travlos G, Buccellato M, et al. Evaluation of 2-methoxy-4-nitroaniline (MNA) in hypersensitivity, 14-day subacute, reproductive, and genotoxicity studies. *Toxicology.* 2020; 441:152474. <https://doi.org/10.1016/j.tox.2020.152474> [5]
- Furman D, Campisi J, Verdin E, Carrera-Bastos P, Targ S, Franceschi C, Ferrucci L, Gilroy DW, Fasano A, Miller GW, et al. Chronic inflammation in the etiology of disease across the life span. *Nat Med.* 2019; 25(12):1822-1832. <https://doi.org/10.1038/s41591-019-0675-0> [5]
- Garner CE, Wegerski CJ, Doyle-Eisele M, McDonald JD, Sanders JM, Moeller BC, Waidyanatha S. Disposition and metabolism of 2',2"-Dithiobisbenzalide in rodents following intravenous and oral administration and dermal application. *Toxicol Rep.* 2020; 7:883-892. <https://doi.org/10.1016/j.toxrep.2020.07.006> [5]
- Gaston SA, Birnbaum LS, Jackson CL. Synthetic chemicals and cardiometabolic health across the life course among vulnerable populations: A review of the literature from 2018 to 2019. *Curr Environ Health Rep.* 2020; 7(1):30-47. <https://doi.org/10.1007/s40572-020-00265-6> [5]
- Ghio AJ, Gonzalez DH, Paulson SE, Soukup JM, Dailey LA, Madden MC, Mahler B, Elmore SA, Schladweiler MC, Kodavanti UP. Ozone reacts with carbon black to produce a fulvic acid-like substance and increase an inflammatory effect. *Toxicol Pathol.* 2020; 48(7):887-898. <https://doi.org/10.1177/0192623320961017> [5]
- Ginsberg GL, Pullen Fedinick K, Solomon GM, Elliott KC, Vandenberg JJ, Barone S, Jr, Bucher JR. New toxicology tools and the emerging paradigm shift in environmental health decision-making. *Environ Health Perspect.* 2019; 127(12):125002. <https://doi.org/10.1289/ehp4745> [5]
- Gokulan K, Kumar A, Lahiani MH, Sutherland VL, Cerniglia CE, Khare S. Differential toxicological outcome of corn oil exposure in rats and mice as assessed by microbial composition, epithelial permeability and ileal mucosa associated immune status. *Toxicol Sci.* 2020. <https://doi.org/10.1093/toxsci/kfaa177> [3]
- Graham UM, Dozier AK, Oberdörster G, Yokel RA, Molina R, Brain JD, Pinto JM, Weuve J, Bennett DA. Tissue specific fate of nanomaterials by advanced analytical imaging techniques - A review. *Chem Res Toxicol.* 2020; 33(5):1145-1162. <https://doi.org/10.1021/acs.chemrestox.0c00072> [2]
- Groff K, Allen D, Casey W, Clippinger A. Increasing the use of animal-free recombinant antibodies. *Altex.* 2020; 37(2):309-311. <https://doi.org/10.14573/altex.2001071> [5]
- Guo NL, Poh TY, Pirela S, Farcas MT, Chotirmall SH, Tham WK, Adav SS, Ye Q, Wei Y, Shen S, et al. Integrated transcriptomics, metabolomics, and lipidomics profiling in rat lung, blood, and serum for assessment of laser printer-emitted nanoparticle inhalation exposure-induced disease risks. *Int J Mol Sci.* 2019; 20(24):6348. <https://doi.org/10.3390/ijms20246348> [2]
- Gwinn WM, Auerbach SS, Parham F, Stout MD, Waidyanatha S, Mutlu E, Collins B, Paules RS, Merrick BA, Ferguson S, et al. Evaluation of 5-day in vivo rat liver and kidney with high-throughput transcriptomics for estimating benchmark doses of apical outcomes. *Toxicol Sci.* 2020; 176(2):343-354. <https://doi.org/10.1093/toxsci/kfaa081> [5]
- Haines SR, Adams RI, Boor BE, Bruton TA, Downey J, Ferro AR, Gall E, Green BJ, Hegarty B, Horner E, et al. Ten questions concerning the implications of carpet on indoor chemistry and microbiology. *Build Environ.* 2019; 170:1-16. <https://doi.org/10.1016/j.buildenv.2019.106589> [2]

- Hanley KW, Andrews RN, Bertke S, Carter T, Navarro K, Ashley K. Manganese fractionation using a sequential extraction method to evaluate welders' flux core arc welding exposures in a shipyard, structural steel and custom parts manufacturers. *Gefahrstoffe Reinhaltung Der Lufft.* 2020; 80(5):185–193. <https://doi.org/10.1080/15459624.2015.1047022> [2]
- Harrill AH. ToxPoint: In the era of precision medicine, diversity should not be neglected in chemical safety assessment. *Toxicol Sci.* 2020; 173(1):3–4. <https://doi.org/10.1093/toxsci/kfz232> [5]
- Harrill AH, Sanders AP. Urinary MicroRNAs in environmental health: Biomarkers of emergent kidney injury and disease. *Curr Environ Health Rep.* 2020; 7(2):101–108. <https://doi.org/10.1007/s40572-020-00271-8> [5]
- Harry GJ, Childers G, Giridharan S, Hernandes IL. An association between mitochondria and microglia effector function. What do we think we know? *Neuroimmunol Neuroinflamm.* 2020; 7:150–165. <https://doi.org/10.20517/2347-8659.2020.07> [5]
- Hawley Blackley B, Cummings KJ, Stanton M, Stefanik AB, Gibbs JL, Park JY, Harvey RR, Virji MA. Work tasks as determinants of respirable and inhalable indium exposure among workers at an indium-tin oxide production and reclamation facility. *Ann Work Expo Health.* 2020; 64(2):175–184. <https://doi.org/10.1093/annweh/wxz091> [2]
- Hefflich RH, Johnson GE, Zeller A, Marchetti F, Douglas GR, Witt KL, Gollapudi BB, White PA. Mutation as a toxicological endpoint for regulatory decision-making. *Environ Mol Mutagen.* 2020; 61(1):34–41. <https://doi.org/10.1002/em.22338> [4]
- Hobbie KR, Dixon D. Evaluation of cystic endometrial hyperplasia and the normal estrous cycle in longitudinal sections of uterus from female harlan Sprague-Dawley rats. *Toxicol Pathol.* 2020; 48(5):616–632. <https://doi.org/10.1177/0192623320931768> [5]
- Hobbs CA, Recio L, Winters J, Witt KL. Use of frozen tissue in the comet assay for the evaluation of DNA damage. *J Vis Exp.* 2020; 24(157). <https://doi.org/10.3791/59955> [5]
- Horn GP, Kesler RM, Newman H, Stewart JW, Smith DL, Kerber S, Andrews J, Fent KW. Impact of repeated exposure and cleaning on protective properties of structural firefighting turnout gear. *Fire Technol.* 2021; 57:791–813. <https://doi.org/10.1007/s10694-020-01021-w> [2]
- Horn GP, Lattz J, Kesler RM, Smith DL, Kerber S, Mayer A, Fent KW. Development of fireground exposure simulator (FES) prop for PPE testing and evaluation. *Fire Technol.* 2020; 56(5):2331–2344. <https://doi.org/10.1007/s10694-020-00981-3> [2]
- Howard BE, Phillips J, Tandon A, Maharana A, Elmore R, Mav D, Sedykh A, Thayer K, Merrick BA, Walker V, et al. SWIFT-Active Screener: Accelerated document screening through active learning and integrated recall estimation. *Environ Int.* 2020; 138:105623. <https://doi.org/10.1016/j.envint.2020.105623> [5]
- Hubbard TD, Brix A, Blystone CR, McIntyre BS, Shockley K, Cunny H, Waidyanatha S, Turner KJ, McBride S, Roberts GK. Butylparaben multigenerational reproductive assessment by continuous breeding in Hsd:Sprague Dawley SD rats following dietary exposure. *Reprod Toxicol.* 2020; 96:258–272. <https://doi.org/10.1016/j.reprotox.2020.07.006> [5]
- Hubbs AF, Kreiss K, Cummings KJ, Fluharty KL, O’Connell R, Cole A, Dodd TM, Clingerman SM, Flesher JR, Lee R, et al. Flavorings-related lung disease: A brief review and new mechanistic data. *Toxicol Pathol.* 2019; 47(8):1012–1026. <https://doi.org/10.1177/0192623319879906> [2]
- Innes CL, Hesse JE, Morales AJ, Helmink BA, Schurman SH, Sleckman BP, Paules RS. DNA damage responses in murine Pre-B cells with genetic deficiencies in damage response genes. *Cell Cycle.* 2019; 19(1):1–17. <https://doi.org/10.1080/15384101.2019.1693118> [5]
- Jaderson M, Park JH. Effect of storage temperature and duration on concentrations of 27 fungal secondary metabolites spiked into floor dust from an office building. *J Occup Environ Hyg.* 2020; 17(5):220–230. <https://doi.org/10.1080/15459624.2020.1734205> [1]
- Jett DA, Sibrizzi CA, Blain RB, Hartman PA, Lein PJ, Taylor KW, Rooney AA. A National Toxicology Program systematic review of the evidence for long-term effects after acute exposure to sarin nerve agent. *Crit Rev Toxicol.* 2020; 50(6):474–490. <https://doi.org/10.1080/10408444.2020.1787330> [5]
- Jin ZC, Sugiyama Y, Zhang CQ, Palui G, Xin Y, Du L, Wang SS, Dridi N, Mattoussi H. Rapid photoligation of gold nanocolloids with lipoic acid-based ligands. *Chem Mater.* 2020; 32(17):7469–7483. <https://doi.org/10.1021/acs.chemmater.0c02482> [4]
- Johnson CY, Tanz LJ, Lawson CC, Howards PP, Bertone-Johnson ER, Eliassen AH, Schernhammer ES, Rich-Edwards JW. Anti-Müllerian hormone levels in nurses working night shifts. *Arch Environ Occup Health.* 2020; 75(3):136–143. <https://doi.org/10.1080/19338244.2019.1577210> [2]
- Johnson CY, Tanz LJ, Lawson CC, Schernhammer ES, Vetter C, Rich-Edwards JW. Night shift work and cardiovascular disease biomarkers in female nurses. *Am J Ind Med.* 2020; 63(3):240–248. <https://doi.org/10.1002/ajim.23079> [2]
- Johnson KJ, Auerbach SS, Costa E. A rat liver transcriptomic point of departure predicts a prospective liver or non-liver apical point of departure. *Toxicol Sci.* 2020; 176:86–102. <https://doi.org/10.1093/toxsci/kfaa062> [5]
- Johnson MS, Buck RC, Cousins IT, Weis CP, Fenton SE. Estimating environmental hazard and risks from exposure to per- and polyfluoroalkyl substances (PFAS): Outcome of a SETAC focused topic meeting. *Environ Toxicol Chem.* 2020; 40(3):543–549. <https://doi.org/10.1002/etc.4784> [5]
- Judson R, Houck K, Paul Friedman K, Brown J, Browne P, Johnston PA, Close DA, Mansouri K, Kleinstreuer N. Selecting a minimal set of androgen receptor assays for screening chemicals. *Regul Toxicol Pharmacol.* 2020; 117:104764. <https://doi.org/10.1016/j.yrtph.2020.104764> [5]
- Kabadi SV, Fisher JW, Doerge DR, Mehta D, Aungst J, Rice P. Characterizing biopersistence potential of the metabolite 5:3 fluorotelomer carboxylic acid after repeated oral exposure to the 6:2 fluorotelomer alcohol. *Toxicol Appl Pharmacol.* 2020; 388:114878. <https://doi.org/10.1016/j.taap.2020.114878> [4]
- Kabadi SV, Zang Y, Fisher JW, Smith N, Whiteside C, Aungst J. Food ingredient safety evaluation: Utility and relevance of toxicokinetic methods. *Toxicol Appl Pharmacol.* 2019; 382:114759. <https://doi.org/10.1016/j.taap.2019.114759> [4]
- Kaur N, Starling AP, Calafat AM, Sjodin A, Clouet-Foraison N, Dolan LM, Imperatore G, Jensen ET, Lawrence JM, Ospina M, et al. Longitudinal association of biomarkers of pesticide exposure with cardiovascular disease risk factors in youth with diabetes. *Environ Res.* 2019; 181:108916. <https://doi.org/10.1016/j.envres.2019.108916> [5]
- Keen C, Hunter JE, Allen EG, Rocheleau C, Waters M, Sherman SL. The association between maternal occupation and down syndrome: A report from the national Down syndrome project. *Int J Hyg Environ Health.* 2020; 223(1):207–213. <https://doi.org/10.1016/j.ijheh.2019.09.001> [2]

- Kehm RD, McDonald JA, Fenton SE, Kavanaugh-Lynch M, Leung KA, McKenzie KE, Mandelblatt JS, Terry MB. Inflammatory biomarkers and breast cancer risk: A systematic review of the evidence and future potential for intervention research. *Int J Environ Res Public Health.* 2020; 17(15):5445. <https://doi.org/10.3390/ijerph17155445> [5]
- Kerber S, Regan JW, Horn GP, Fent KW, Smith DL. Effect of firefighting intervention on occupant tenability during a residential fire. *Fire Technol.* 2019; 55(6):2289-2316. <https://doi.org/10.1007/s10694-019-00864-2> [2]
- Khare S, DeLoid GM, Molina RM, Gokulan K, Couvillion SP, Bloodsworth KJ, Eder EK, Wong AR, Hoyt DW, Brammer LM, et al. Effects of ingested nanocellulose on intestinal microbiota and homeostasis in Wistar Han rats. *NanoImpact.* 2020; 18:100216. <https://doi.org/10.1016/j.impact.2020.100216> [4]
- Kimura Y, Yasuno R, Watanabe M, Kobayashi M, Iwaki T, Fujimura C, Ohmiya Y, Yamakage K, Nakajima Y, Kobayashi M, et al. An international validation study of the IL-2 Luc assay for evaluating the potential immunotoxic effects of chemicals on T cells and a proposal for reference data for immunotoxic chemicals. *Toxicol In Vitro.* 2020; 66:104832. <https://doi.org/10.1016/j.tiv.2020.104832> [5]
- Kiratipaiiboon C, Voronkova M, Ghosh R, Rojanasakul LW, Dinu CZ, Chen YC, Rojanasakul Y. SOX2Mediates carbon nanotube-induced fibrogenesis and fibroblast stem cell acquisition. *ACS Biomater Sci Eng.* 2020; 6(9):5290-5304. <https://doi.org/10.1021/acsbiomaterials.0c00887> [2]
- Kleinstreuer NC, Tong W, Tetko IV. Computational toxicology. *Chem Res Toxicol.* 2020; 33(3):687-688. <https://doi.org/10.1021/acs.chemrestox.0c00070> [5]
- Knudsen GA, Chapman M, Trexler AW, Juberg CT, Birnbaum LS. 2,4,6-Tribromophenol disposition and kinetics in pregnant and nursing Sprague Dawley rats. *Toxicol Sci.* 2020; 178(1):36-43. <https://doi.org/10.1093/toxsci/kfaa133> [5]
- Kodali V, Shoeb M, Meighan TG, Eye T, Friend SA, Hubczak J, Kashon ML, Zeidler-Erdely PC, Antonini JM, Erdely A. Bioactivity of circulatory factors after pulmonary exposure to mild or stainless steel welding fumes. *Toxicol Sci.* 2020; 177(1):108-120. <https://doi.org/10.1093/toxsci/kfaa084> [2]
- Kornberg TG, Stueckle TA, Coyle J, Derk R, Demokritou P, Rojanasakul Y, Rojanasakul LW. Iron oxide nanoparticle-induced neoplastic-like cell transformation in vitro is reduced with a protective amorphous silica coating. *Chem Res Toxicol.* 2019; 32(12):2382-2397. <https://doi.org/10.1021/acs.chemrestox.9b00118> [2]
- Ku BK, Deye G. Collection efficiency of airborne fibers on nylon mesh screens with different pore sizes and configurations. *Aerosol Sci Technol.* 2019; 53(10):1217-1227. <https://doi.org/10.1080/02786826.2019.1652725> [2]
- Kweon O, Kim SJ, Kim JH, Nho SW, Bae D, Chon J, Hart M, Baek DH, Kim YC, Wang W, et al. CYPminer: An automated cytochrome P450 identification, classification, and data analysis tool for genome data sets across kingdoms. *BMC Bioinformatics.* 2020; 21(1):160. <https://doi.org/10.1186/s12859-020-3473-2> [4]
- Kwiatkowski CF, Andrews DQ, Birnbaum LS, Bruton TA, Dewitt JC, Knappe DRU, Maffini MV, Miller MF, Pelch KE, Reade A, et al. Scientific basis for managing PFAS as a chemical class. *Environ Sci Technol Lett.* 2020; 7(8):532-543. <https://doi.org/10.1021/acs.estlett.0c00255> [5]
- Kwok RK, Berridge BR, Bucher JR, Collman GW, Hall JE, Jacobson ME, Long WC, Miller AK, Miller MF, Woychik RP, et al. The distinguished legacy of Linda S. Birnbaum, an environmental health champion. *Environ Health Perspect.* 2019; 127(10):101001. <https://doi.org/10.1289/ehp6332> [5]
- Lee T, Ku BK, Walker R, Kulkarni P, Barone T, Mischler S. Aerodynamic size separation of glass fiber aerosols. *J Occup Environ Hyg.* 2020; 17(6):301-311. <https://doi.org/10.1080/15459624.2020.1742915> [2]
- Lemons AR, Croston TL, Goldsmith WT, Barnes MA, Jaderson MA, Park JH, McKinney W, Beezhold DH, Green BJ. Cultivation and aerosolization of *Stachybotrys chartarum* for modeling pulmonary inhalation exposure. *Inhal Toxicol.* 2019; 31(13-14):446-456. <https://doi.org/10.1080/08958378.2019.1705939> [1]
- Lemons AR, McClelland TL, Martin SB, Jr, Lindsley WG, Green BJ. Inactivation of the multi-drug resistant pathogen *Candida auris* using ultraviolet germicidal irradiation (UVGI). *J Hosp Infect.* 2020; 105(3):495-501. <https://doi.org/10.1016/j.jhin.2020.04.011> [2]
- Li X, Chen S, Guo X, Wu Q, Seo JE, Guo L, Manjanatha MG, Zhou T, Witt KL, Mei N. Development and application of TK6-derived cells expressing human cytochrome P450s for genotoxicity testing. *Toxicol Sci.* 2020; 175(2):251-265. <https://doi.org/10.1093/toxsci/kfaa035> [4]
- Li X, He X, Chen S, Guo X, Bryant MS, Guo L, Manjanatha MG, Zhou T, Witt KL, Mei N. Evaluation of pyrrolizidine alkaloid-induced genotoxicity using metabolically competent TK6 cell lines. *Food Chem Toxicol.* 2020; 145:111662. <https://doi.org/10.1016/j.fct.2020.111662> [5]
- Li X, Kleinstreuer NC, Fourches D. Hierarchical quantitative structure-activity relationship modeling approach for integrating binary, multiclass, and regression models of acute oral systemic toxicity. *Chem Res Toxicol.* 2020; 33(2):353-366. <https://doi.org/10.1021/acs.chemrestox.9b00259> [5]
- Lim CS, Porter DW, Orandle MS, Green BJ, Barnes MA, Croston TL, Wolfarth MG, Battelli LA, Andrew ME, Beezhold DH, et al. Resolution of pulmonary inflammation induced by carbon nanotubes and fullerenes in mice: Role of macrophage polarization. *Front Immunol.* 2020; 11:1186. <https://doi.org/10.3389/fimmu.2020.01186> [2]
- Lin CC, Law BF, Hettick JM. Acute 4,4'-methylene diphenyl diisocyanate exposure-mediated downregulation of miR-206-3p and miR-381-3p activates inducible nitric oxide synthase transcription by targeting calcineurin/NFAT signaling in macrophages. *Toxicol Sci.* 2020; 173(1):100-113. <https://doi.org/10.1093/toxsci/kfz215> [2]
- Linakis MW, Sayre RR, Pearce RG, Sfeir MA, Sipes NS, Pangburn HA, Gearhart JM, Wambaugh JF. Development and evaluation of a high throughput inhalation model for organic chemicals. *J Expo Sci Environ Epidemiol.* 2020; 30:866-877. <https://doi.org/10.1038/s41370-020-0238-y> [5]
- Lindsley WG, Blachere FM, McClelland TL, Neu DT, Mnatsakanova A, Martin SB, Jr., Mead KR, Noti JD. Efficacy of an ambulance ventilation system in reducing EMS worker exposure to airborne particles from a patient cough aerosol simulator. *J Occup Environ Hyg.* 2019; 16(12):804-816. <https://doi.org/10.1080/15459624.2019.1674858> [2]
- Liu F, Liu S, Patterson TA, Fogle C, Hanig JP, Wang C, Slikker W, Jr. Protective effects of xenon on propofol-induced neurotoxicity in human neural stem cell-derived models. *Mol Neurobiol.* 2020; 57(1):200-207. <https://doi.org/10.1007/s12035-019-01769-5> [4]
- Loukotková L, Basavarajappa M, Lumen A, Roberts R, Mattison D, Morris SM, Fisher J, Beland FA, Gamboa da Costa G. Pharmacokinetics of oseltamivir phosphate and oseltamivir carboxylate in non-pregnant and pregnant rhesus monkeys. *Regul Toxicol Pharmacol.* 2020; 112:104569. <https://doi.org/10.1016/j.yrtph.2019.104569> [4]

- Low LA, Mummery C, Berridge BR, Austin CP, Tagle DA. Organs-on-chips: Into the next decade. *Nat Rev Drug Discov.* 2020; <https://doi.org/10.1038/s41573-020-0079-3> [5]
- Lozoya OA, Xu F, Grenet D, Wang T, Grimm SA, Godfrey V, Waidyanatha S, Woychik RP, Santos JH. Single nucleotide resolution analysis reveals pervasive, long-lasting DNA methylation changes by developmental exposure to a mitochondrial toxicant. *Cell Rep.* 2020; 32(11):108131. <https://doi.org/10.1016/j.celrep.2020.108131> [5]
- Mandler WK, Kang S, Farcas M, Qi C, Friend SA, Qian Y. In vitro toxicity assessment of respirable solid surface composite sawing particles. *Toxicol Ind Health.* 2020; 36(4):250–262. <https://doi.org/10.1177/0748233720921683> [2]
- Mansouri K, Kleinstreuer N, Abdelaziz AM, Alberga D, Alves VM, Andersson PL, Andrade CH, Bai F, Balabin I, Ballabio D, et al. CoMPARA: Collaborative modeling project for androgen receptor activity. *Environ Health Perspect.* 2020; 128(2):27002. <https://doi.org/10.1289/ehp5580> [5]
- Mehta SS, Arroyave WD, Lunn RM, Park YM, Boyd WA, Sandler DP. A prospective analysis of red and processed meat consumption and risk of colorectal cancer in women. *Cancer Epidemiol Biomarkers Prev.* 2019; 29(1):141–150. <https://doi.org/10.1158/1055-9965.Epi-19-0459> [5]
- Mendley SR, Levin A, Correa-Rotter R, Joubert BR, Whelan EA, Curwin B, Koritzinsky EH, Gaughan DM, Kimmel PL, Anand S, et al. Chronic kidney diseases in agricultural communities: Report from a workshop. *Kidney Int.* 2019; 96(5):1071–1076. <https://doi.org/10.1016/j.kint.2019.06.024> [2]
- Merrick BA. Next generation sequencing data for use in risk assessment. *Curr Opin Toxicol.* 2019; 18:18–26. <https://doi.org/10.1016/j.cotox.2019.02.010> [5]
- Merrick BA, Phadke DP, Bostrom MA, Shah RR, Wright GM, Wang X, Gordon O, Pelch KE, Auerbach SS, Paules RS, et al. KRAS-retroviral fusion transcripts and gene amplification in arsenic-transformed, human prostate CASe-PE cancer cells. *Toxicol Appl Pharmacol.* 2020; 397:115017. <https://doi.org/10.1016/j.taap.2020.115017> [5]
- Montévil M, Acevedo N, Schaeberle CM, Bharadwaj M, Fenton SE, Soto AM. A combined morphometric and statistical approach to assess nonmonotonicity in the developing mammary gland of rats in the CLARITY-BPA study. *Environ Health Perspect.* 2020; 128(5):57001. <https://doi.org/10.1289/ehp6301> [5]
- Mutlu E, Garner CE, Wegerski CJ, McDonald JD, McIntyre BS, Doyle-Eisele M, Waidyanatha S. Metabolism and disposition of 2-hydroxy-4-methoxybenzophenone, a sunscreen ingredient, in Harlan Sprague Dawley rats and B6C3F1/N mice: a species and route comparison. *Xenobiotica.* 2019; 50(6):689–704. <https://doi.org/10.1080/00498254.2019.1680906> [5]
- Mutlu E, Gibbs ST, South N, Pierfelice J, Burbank B, Germolec D, Waidyanatha S. Comparative toxicokinetics of trans-resveratrol and its major metabolites in Harlan Sprague Dawley rats and B6C3F1/N mice following oral and intravenous administration. *Toxicol Appl Pharmacol.* 2020; 394:114962. <https://doi.org/10.1016/j.taap.2020.114962> [5]
- Myers MB, McKim KL, Wang Y, Banda M, Parsons BL. ACB-PCR quantification of low-frequency hotspot cancer-driver mutations. *Methods Mol Biol.* 2020; 2102:395–417. [https://doi.org/10.1007/978-1-0716-0223-2\\_23](https://doi.org/10.1007/978-1-0716-0223-2_23) [4]
- Nagumalli SK, Jacob CC, Gamboa da Costa G. A rapid and highly sensitive UPLC-ESI-MS/MS method for the analysis of the fatty acid profile of edible vegetable oils. *J Chromatogr B Analyt Technol Biomed Life Sci.* 2020; 1161:122415. <https://doi.org/10.1016/j.jchromb.2020.122415> [3]
- Nakamura N, Pence LM, Cao Z, Beger RD. Distinct lipid signatures are identified in the plasma of rats with chronic inflammation induced by estradiol benzoate and sex hormones. *Metabolomics.* 2020; 16(9):95. <https://doi.org/10.1007/s11306-020-01715-w> [4]
- Nakamura N, Vijay V, Sloper DT. Gene expression profiling in dorsolateral prostates of prepubertal and adult Sprague-Dawley rats dosed with estradiol benzoate, estradiol, and testosterone. *J Toxicol Sci.* 2020; 45(8):435–447. <https://doi.org/10.2131/jts.45.435> [4]
- Nastasi N, Haines SR, Xu LY, da Silva H, Divjan A, Barnes MA, Rappleye CA, Perzanowski MS, Green BJ, Dannemiller KC. Morphology and quantification of fungal growth in residential dust and carpets. *Build Environ.* 2020; 174:106774. <https://doi.org/10.1016/j.buildenv.2020.106774> [2]
- O'Connor AM, Glasziou P, Taylor M, Thomas J, Spijker R, Wolfe MS. A focus on cross-purpose tools, automated recognition of study design in multiple disciplines, and evaluation of automation tools: A summary of significant discussions at the fourth meeting of the International Collaboration for Automation of Systematic Reviews (ICASR). *Syst Rev.* 2020; 9(1):100. <https://doi.org/10.1186/s13643-020-01351-4> [5]
- Olgun NS, Morris AM, Bowers LN, Stefanaki AB, Friend SA, Reznik SE, Leonard SS. Mild steel and stainless steel welding fumes elicit pro-inflammatory and pro-oxidant effects in first trimester trophoblast cells. *Am J Reprod Immunol.* 2020; 83(4):e13221. <https://doi.org/10.1111/aji.13221> [2]
- Parish ST, Aschner M, Casey W, Corvaro M, Embry MR, Fitzpatrick S, Kidd D, Kleinstreuer NC, Lima BS, Settivari RS, et al. An evaluation framework for new approach methodologies (NAMs) for human health safety assessment. *Regul Toxicol Pharmacol.* 2020; 112:104592. <https://doi.org/10.1016/j.yrtph.2020.104592> [5]
- Park JH, Lee TJ, Park MJ, Oh HN, Jo YM. Effects of air cleaners and school characteristics on classroom concentrations of particulate matter in 34 elementary schools in Korea. *Build Environ.* 2020; 167:106437. <https://doi.org/10.1016/j.buildenv.2019.106437> [2]
- Patel J, Nembhadr WN, Politis MD, Rocheleau CM, Langlois PH, Shaw GM, Romitti PA, Gilboa SM, Desrosiers TA, Insaf T, et al. Maternal occupational exposure to polycyclic aromatic hydrocarbons and the risk of isolated congenital heart defects among offspring. *Environ Res.* 2020; 186:109550. <https://doi.org/10.1016/j.envres.2020.109550> [2]
- Pfuhler S, van Benthem J, Curren R, Doak SH, Dusinska M, Hayashi M, Hefflich RH, Kidd D, Kirkland D, Luan Y, et al. Use of in vitro 3D tissue models in genotoxicity testing: Strategic fit, validation status and way forward. Report of the working group from the 7th International Workshop on Genotoxicity Testing (IWGT). *Mutat Res.* 2020; 850–851:503135. <https://doi.org/10.1016/j.mrgentox.2020.503135> [4]
- Phelps DW, Fletcher AA, Rodriguez-Nunez I, Balik-Meisner MR, Tokarz DA, Reif DM, Germolec DR, Yoder JA. In vivo assessment of respiratory burst inhibition by xenobiotic exposure using larval zebrafish. *J Immunotoxicol.* 2020; 17(1):94–104. <https://doi.org/10.1080/1547691x.2020.1748772> [5]
- Piñeiro SA, Cerniglia CE. Antimicrobial drug residues in animal-derived foods: Potential impact on the human intestinal microbiome. *J Vet Pharmacol Ther.* 2021; 44(2):215–222. <https://doi.org/10.1111/j.vpt.12892> [4]

- Pinkerton L, Bertke SJ, Yien J, Dahm M, Kubale T, Hales T, Purdue M, Beaumont JJ, Daniels R. Mortality in a cohort of US firefighters from San Francisco, Chicago and Philadelphia: An update. *Occup Environ Med.* 2020; 77(2):84–93. <https://doi.org/10.1136/oemed-2019-105962> [2]
- Pogribna M, Koonce NA, Mathew A, Word B, Patri AK, Lyn-Cook B, Hammons G. Effect of titanium dioxide nanoparticles on DNA methylation in multiple human cell lines. *Nanotoxicology.* 2020; 14(4):534–553. <https://doi.org/10.1080/17435390.2020.1723730> [4]
- Poirier MC, Beland FA, Divi KV, Damon AL, Ali M, Vanlandingham MM, Churchwell MI, Von Tungeln LS, Dwyer JE, Divi RL, et al. In vivo localization and postmortem stability of benzo[a]pyrene-DNA adducts. *Environ Mol Mutagen.* 2020; 61(2):216–223. <https://doi.org/10.1002/em.22337> [4]
- Porter DW, Orandle M, Zheng P, Wu N, Hamilton RF, Jr, Holian A, Chen BT, Andrew M, Wolfarth MG, Battelli L, et al. Mouse pulmonary dose- and time course-responses induced by exposure to nitrogen-doped multi-walled carbon nanotubes. *Inhal Toxicol.* 2020; 32(1):24–38. <https://doi.org/10.1080/08958378.2020.1723746> [2]
- Prior H, Baldrick P, Beken S, Booler H, Bower N, Brooker P, Brown P, Burlinson B, Burns-Naas LA, Casey W, et al. Opportunities for use of one species for longer-term toxicology testing during drug development: A cross-industry evaluation. *Regul Toxicol Pharmacol.* 2020; 113:104624. <https://doi.org/10.1016/j.yrtph.2020.104624> [5]
- Rage E, Richardson DB, Demers PA, Do M, Fenske N, Kreuzer M, Samet J, Wiggins C, Schubauer-Berigan MK, Kelly-Reif K, et al. PUMA - pooled uranium miners analysis: Cohort profile. *Occup Environ Med.* 2020; 77(3):194–200. <https://doi.org/10.1136/oemed-2019-105981> [2]
- Rehder Silinski MA, Fernando RA, Robinson VG, Waidyanatha S. Development and validation of an analytical method for quantitation of monobutylphthalate, a metabolite of di-n-butylphthalate, in rat plasma, amniotic fluid, fetuses, and pups by UPLC-MS/MS. *J Anal Toxicol.* 2019; 44(4):370–377. <https://doi.org/10.1093/jat/bkz090> [5]
- Rehder Silinski MA, Gilliam JA, Fernando RA, Robinson VG, Germolec D, Cunny H, Huang MC, Furr J, Waidyanatha S. Development of an analytical method for quantitation of deoxynivalenol by UPLC-MS-MS: A preliminary assessment of gestational and lactational transfer in rats. *J Anal Toxicol.* 2020; bkaa119. <https://doi.org/10.1093/jat/bkaa119> [5]
- Rider CV, Vallant M, Blystone C, Waidyanatha S, South NL, Xie G, Turner K. Short-term perinatal toxicity study in Sprague Dawley rats with the plasticizer and emerging contaminant N-butylbenzenesulfonamide. *Toxicol Lett.* 2020; 330:159–166. <https://doi.org/10.1016/j.toxlet.2020.05.005> [5]
- Riva L, Pandiri AR, Li YR, Droop A, Hewinson J, Quail MA, Iyer V, Shepherd R, Herbert RA, Campbell PJ, et al. The mutational signature profile of known and suspected human carcinogens in mice. *Nat Genet.* 2020; 52(11):1189–1197. <https://doi.org/10.1038/s41588-020-0692-4> [5]
- Robinson BL, Gu Q, Tryndyk V, Ali SF, Durnas M, Kanungo J. Nifedipine toxicity is exacerbated by acetyl L-carnitine but alleviated by low-dose ketamine in zebrafish in vivo. *J Appl Toxicol.* 2020; 40(2):257–269. <https://doi.org/10.1002/jat.3901> [4]
- Rogers KR, Henson TE, Navratilova J, Surette M, Hughes MF, Bradham KD, Stefaniak AB, Knepp AK, Bowers L. In vitro intestinal toxicity of commercially available spray disinfectant products advertised to contain colloidal silver. *Sci Total Environ.* 2020; 728:138611. <https://doi.org/10.1016/j.scitotenv.2020.138611> [2]
- Rollins SM, Su FC, Liang X, Humann MJ, Stefaniak AB, LeBouf RF, Stanton ML, Virji MA, Henneberger PK. Workplace indoor environmental quality and asthma-related outcomes in healthcare workers. *Am J Ind Med.* 2020; 63(5):417–428. <https://doi.org/10.1002/ajim.23101> [2]
- Rosas-Hernandez H, Burks SM, Cuevas E, Ali SF. Stretch-induced deformation as a model to study dopaminergic dysfunction in traumatic brain injury. *Neurochem Res.* 2019; 44(11):2546–2555. <https://doi.org/10.1007/s11064-019-02872-8> [4]
- Rosas-Hernandez H, Cuevas E, Raymick JB, Robinson BL, Sarkar S. Impaired amyloid beta clearance and brain microvascular dysfunction are present in the Tg-SwDI mouse model of Alzheimer's disease. *Neuroscience.* 2020; 440:48–55. <https://doi.org/10.1016/j.neuroscience.2020.05.024> [4]
- Rovida C, Barton-Maclaren T, Benfenati E, Caloni F, Chandrasekera C, Chesne C, Cronin MTD, De Knecht J, Dietrich DR, Escher SE, et al. Internationalization of read-across as a validated new approach method (NAM) for regulatory toxicology. *Altex.* 2020; 37(4):579–606. <https://doi.org/10.14573/altex.1912181> [5]
- Santiago-Colón A, Rocheleau CM, Chen IC, Sanderson W, Waters MA, Lawson CC, Langlois PH, Cragan JD, Reehuis J. Association between maternal occupational exposure to polycyclic aromatic hydrocarbons and rare birth defects of the face and central nervous system. *Birth Defects Res.* 2020; 112(5):404–417. <https://doi.org/10.1002/bdr2.1643> [2]
- Sarkar R, Xie TZ, Endres KJ, Wang Z, Moorefield CN, Saunders MJ, Ghorai S, Patri AK, Wesdemiotis C, Dobrynski AV, et al. Sierpi ski pyramids by molecular entanglement. *J Am Chem Soc.* 2020; 142(12):5526–5530. <https://doi.org/10.1021/jacs.0c01168> [4]
- Sasso AF, Pirow R, Andra SS, Church R, Nachman RM, Linke S, Kapraun DF, Schurman SH, Arora M, Thayer KA, et al. Pharmacokinetics of bisphenol A in humans following dermal administration. *Environ Int.* 2020; 144:106031. <https://doi.org/10.1016/j.envint.2020.106031> [5]
- Schubauer-Berigan MK, Dahm MM, Toennis CA, Sammons DL, Eye T, Kodali V, Zeidler-Erdely PC, Erdely A. Association of occupational exposures with ex vivo functional immune response in workers handling carbon nanotubes and nanofibers. *Nanotoxicology.* 2020; 14(3):404–419. <https://doi.org/10.1080/17435390.2020.1717007> [2]
- Seo JE, Wu Q, Bryant M, Ren L, Shi Q, Robison TW, Mei N, Manjanatha MG, Guo X. Performance of high-throughput CometChip assay using primary human hepatocytes: A comparison of DNA damage responses with in vitro human hepatoma cell lines. *Arch Toxicol.* 2020; 94(6):2207–2224. <https://doi.org/10.1007/s00204-020-02736-z> [4]
- Shaffer RM, Sellers SP, Baker MG, de Buen Kalman R, Frostad J, Suter MK, Anenberg SC, Balbus J, Basu N, Bellinger DC, et al. Improving and expanding estimates of the global burden of disease due to environmental health risk factors. *Environ Health Perspect.* 2019; 127(10):105001. <https://doi.org/10.1289/ehp5496> [5]
- Shane HL, Baur R, Lukomska E, Weatherly L, Anderson SE. Immunotoxicity and allergenic potential induced by topical application of perfluorooctanoic acid (PFOA) in a murine model. *Food Chem Toxicol.* 2020; 136:111114. <https://doi.org/10.1016/j.fct.2020.111114> [2]
- Shane HL, Long CM, Anderson SE. Novel cutaneous mediators of chemical allergy. *J Immunotoxicol.* 2019; 16(1):13–27. <https://doi.org/10.1080/1547691x.2018.1515279> [2]

- Shockley KR, Cora MC, Malarkey DE, Jackson-Humbles D, Vallant M, Collins BJ, Mutlu E, Robinson VG, Waidyanatha S, Zmarowski A, et al. Comparative toxicity and liver transcriptomics of legacy and emerging brominated flame retardants following 5-day exposure in the rat. *Toxicol Lett.* 2020; 332:222–234. <https://doi.org/10.1016/j.toxlet.2020.07.016> [5]
- Shockley KR, Cora MC, Malarkey DE, Jackson-Humbles D, Vallant M, Collins BJ, Mutlu E, Robinson VG, Waidyanatha S, Zmarowski A, et al. Transcriptomic data from the rat liver after five days of exposure to legacy or emerging brominated flame retardants. *Data Brief.* 2020; 32:106136. <https://doi.org/10.1016/j.dib.2020.106136> [5]
- Shoeb M, Mustafa GM, Kodali VK, Smith K, Roach KA, Boyce G, Meighan T, Roberts JR, Erdely A, Antonini JM. A possible relationship between telomere length and markers of neurodegeneration in rat brain after welding fume inhalation exposure. *Environ Res.* 2020; 180:108900. <https://doi.org/10.1016/j.envres.2019.108900> [2]
- Siegel M, Johnson CY, Lawson CC, Ridenour M, Hartley D. Nonfatal violent workplace crime characteristics and rates by occupation – United States, 2007–2015. *MMWR Morb Mortal Wkly Rep.* 2020; 69(12):324–328. <https://doi.org/10.15585/mmwr.mm6912a2> [2]
- Siegrist KJ, Reynolds SH, Porter DW, Mercer RR, Bauer AK, Lowry D, Cena L, Stueckle TA, Kashon ML, Wiley J, et al. Mitsui-7, heat-treated, and nitrogen-doped multi-walled carbon nanotubes elicit genotoxicity in human lung epithelial cells. *Part Fibre Toxicol.* 2019; 16(1):36. <https://doi.org/10.1186/s12989-019-0318-0> [2]
- Sinha BK. Role of oxygen and nitrogen radicals in the mechanism of anticancer drug cytotoxicity. *J Cancer Sci Ther.* 2020; 12(1):10–18. <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7269165/> [5]
- Sinha BK, Tokar EJ, Bushel PR. Elucidation of mechanisms of topotecan-induced cell death in human breast MCF-7 cancer cells by gene expression analysis. *Front Genet.* 2020; 11:775. <https://doi.org/10.3389/fgene.2020.00775> [5]
- Skelly DA, Czechanski A, Byers C, Aydin S, Spruce C, Olivier C, Choi K, Gatti DM, Raghupathy N, Keele GR, et al. Mapping the effects of genetic variation on chromatin state and gene expression reveals loci that control ground state pluripotency. *Cell Stem Cell.* 2020; 27(3):459–469. <https://doi.org/10.1016/j.stem.2020.07.005> [5]
- Skovmand A, Erdely A, Antonini JM, Nurkiewicz TR, Shoeb M, Eye T, Kodali V, Loeschner K, Vidmar J, Agerholm JS, et al. Inhalation of welding fumes reduced sperm counts and high fat diet reduced testosterone levels: differential effects in Sprague Dawley and Brown Norway rats. *Part Fibre Toxicol.* 2020; 17(1):2. <https://doi.org/10.1186/s12989-019-0334-0> [2]
- Smith-Roe SL, Wyde ME, Stout MD, Winters JW, Hobbs CA, Shepard KG, Green AS, Kissling GE, Shockley KR, Tice RR, et al. Evaluation of the genotoxicity of cell phone radiofrequency radiation in male and female rats and mice following subchronic exposure. *Environ Mol Mutagen.* 2020; 61(2):276–290. <https://doi.org/10.1002/em.22343> [5]
- Smith DL, Horn GP, Fernhall B, Kesler RM, Fent KW, Kerber S, Rowland TW. Electrocardiographic responses following live-fire firefighting drills. *J Occup Environ Med.* 2019; 61(12):1030–1035. <https://doi.org/10.1097/jom.0000000000001730> [2]
- Smith MT, Guyton KZ, Kleinstreuer N, Borrel A, Cardenas A, Chiu WA, Felsher DW, Gibbons CF, Goodson WH, 3rd, Houck KA, et al. The key characteristics of carcinogens: Relationship to the hallmarks of cancer, relevant biomarkers, and assays to measure them. *Cancer Epidemiol Biomarkers Prev.* 2020; 29(10):1887–1903. <https://doi.org/10.1158/1055-9965.Epi-19-1346> [5]
- Song H, Hughes JR, Turner RT, Iwaniec UT, Doerge DR, Helferich WG. (±)-Equol does not interact with genistein on estrogen-dependent breast tumor growth. *Food Chem Toxicol.* 2020; 136:110979. <https://doi.org/10.1016/j.fct.2019.110979> [4]
- Soo JC, Lebouf RF, Chisholm WP, Nelson J, Roberts J, Kashon ML, Lee EG, Harper M. Evaluation of sorbent sampling and analysis procedures for acetone in workplace air: Variations of concentration and relative humidity. *Ann Work Expo Health.* 2020; 64(1):96–105. <https://doi.org/10.1093/annweh/wxz087> [2]
- Sorkin BC, Kuszak AJ, Bloss G, Fukagawa NK, Hoffman FA, Jafari M, Barrett B, Brown PN, Bushman FD, Casper SJ, et al. Improving natural product research translation: From source to clinical trial. *FASEB J.* 2020; 34(1):41–65. <https://doi.org/10.1096/fj.201902143R> [5]
- Spector JT, Masuda YJ, Wolff NH, Calkins M, Seixas N. Heat exposure and occupational injuries: Review of the literature and implications. *Curr Environ Health Rep.* 2019; 6(4):286–296. <https://doi.org/10.1007/s40572-019-00250-8> [2]
- Spindler N, Almli LM, Desrosiers TA, Arnold KE, Bergman JEH, Kromhout H, Boezen HM, de Walle HEK, Rocheleau C, Reehuis J. Maternal occupational exposure to solvents and gastroschisis in offspring - National Birth Defects Prevention Study 1997–2011. *Occup Environ Med.* 2020; 77(3):172–178. <https://doi.org/10.1136/oemed-2019-106147> [2]
- Steenland K, Schubauer-Berigan MK, Vermeulen R, Lunn RM, Straif K, Zahm S, Stewart P, Arroyave WD, Mehta SS, Pearce N. Risk of bias assessments and evidence syntheses for observational epidemiologic studies of environmental and occupational exposures: Strengths and limitations. *Environ Health Perspect.* 2020; 128(9):95002. <https://doi.org/10.1289/ehp6980> [5]
- Sun J, Beger RD, Sloper DT, Nakamura N. Metabolomics-based pathway changes in testis fragments treated with ethinylestradiol in vitro. *Birth Defects Res.* 2019; 111(20):1643–1654. <https://doi.org/10.1002/bdr2.1560> [4]
- Sura R, Van Vleet T, Berridge BR. Microphysiological systems: A pathologist's perspective. *Vet Pathol.* 2020; 57(7):358–368. <https://doi.org/10.1177/0300985820908794> [5]
- Sutherland VL, McQueen CA, Mendum D, Gulezian D, Cerniglia C, Foley S, Forry S, Khare S, Liang X, Manautou JE, et al. The gut microbiome and xenobiotics: Identifying knowledge gaps. *Toxicol Sci.* 2020; 176(1):1–10. <https://doi.org/10.1093/toxsci/kfaa060> [3]
- Tachibana K, Kass GEN, Ono A, Yamada T, Tong W, Doerge DR, Yamazoe Y. A summary report of FSCJ Workshop "Future Challenges and Opportunities in Developing Methodologies for Improved Human Risk Assessments." *Food Saf (Tokyo).* 2019; 7(4):83–89. <https://doi.org/10.14252/foodsafetyfscj.2018017> [4]
- Tan YM, Chan M, Chukwudebe A, Domoradzki J, Fisher J, Hack CE, Hinderliter P, Hirasawa K, Leonard J, Lumen A, et al. PBPK model reporting template for chemical risk assessment applications. *Regul Toxicol Pharmacol.* 2020; 115:104691. <https://doi.org/10.1016/j.yrtph.2020.104691> [4]
- Taylor KW, Wang Z, Walker VR, Rooney AA, Bero LA. Using interactive data visualization to facilitate user selection and comparison of risk of bias tools for observational studies of exposures. *Environ Int.* 2020; 142:105806. <https://doi.org/10.1016/j.envint.2020.105806> [5]
- Tegenge MA, Von Tungeln LS, Anderson SA, Mitkus RJ, Vanlandingham MM, Forshee RA, Beland FA. Comparative pharmacokinetic and biodistribution study of two distinct squalene-containing oil-in-water emulsion adjuvants in H5N1 influenza vaccines. *Regul Toxicol Pharmacol.* 2019; 108:104436. <https://doi.org/10.1016/j.yrtph.2019.104436> [4]

- Thakkar S, Anklam E, Xu A, Ulberth F, Li J, Li B, Hugas M, Sarma N, Crerar S, Swift S, et al. Regulatory landscape of dietary supplements and herbal medicines from a global perspective. *Regul Toxicol Pharmacol.* 2020; 114:104647. <https://doi.org/10.1016/j.yrtph.2020.104647> [4]
- Trbojevich RA, Khare S, Lim JH, Watanabe F, Gokulan K, Krohmaly K, Williams K. Assessment of silver release and biocidal capacity from silver nanocomposite food packaging materials. *Food Chem Toxicol.* 2020; 145:111728. <https://doi.org/10.1016/j.fct.2020.111728> [3]
- Tryndyak V, Borowa-Mazgaj B, Beland FA, Pogribny IP. Gene expression and cytosine DNA methylation alterations in induced pluripotent stem-cell-derived human hepatocytes treated with low doses of chemical carcinogens. *Arch Toxicol.* 2019; 93(11):3335–3344. <https://doi.org/10.1007/s00204-019-02569-5> [4]
- Twaddle NC, Beland FA, Doerge DR. Metabolism and disposition of arsenic species from controlled dosing with sodium arsenite in adult and neonatal rhesus monkeys. VI. Toxicokinetic studies following oral administration. *Food Chem Toxicol.* 2019; 133:110760. <https://doi.org/10.1016/j.fct.2019.110760> [3]
- Upson K, O'Brien KM, Hall JE, Tokar EJ, Baird DD. Cadmium exposure and ovarian reserve in women ages 35–49 years: The impact on results of creatinine adjustment approach to correct for urinary dilution. *Am J Epidemiol.* 2020; 190(1):116–124. <https://doi.org/10.1093/aje/kwaa037> [5]
- Van den Anker JN, McCune S, Annaert P, Baer GR, Mulugeta Y, Abdelrahman R, Wu K, Krudys KM, Fisher J, Slikker W, et al. Approaches to dose finding in neonates, illustrating the variability between neonatal drug development programs. *Pharmaceutics.* 2020; 12(7):685. <https://doi.org/10.3390/pharmaceutics12070685> [4]
- Virji MA, Schuler CR, Cox-Ganser J, Stanton ML, Kent MS, Kreiss K, Stefaniak AB. Associations of metrics of peak inhalation exposure and skin exposure indices with beryllium sensitization at a beryllium manufacturing facility. *Ann Work Expo Health.* 2019; 63(8):856–869. <https://doi.org/10.1093/annweh/wxz064> [2]
- Voronkova MA, Rojanasakul LW, Kiratipaiboon C, Rojanasakul Y. The SOX9-aldehyde dehydrogenase axis determines resistance to chemotherapy in non-small-cell lung cancer. *Mol Cell Biol.* 2020; 40(2):e00307-19. <https://doi.org/10.1128/mcb.00307-19> [2]
- Waidyanatha S, Black SR, Croutch CR, Collins BJ, Silinski MAR, Kerns S, Sutherland V, Godfrey Robinson V, Aillon K, Fernando RA, et al. Comparative toxicokinetics of bisphenol S and bisphenol AF in male rats and mice following repeated exposure via feed. *Xenobiotica.* 2020; 51(2):210–221. <https://doi.org/10.1080/00498254.2020.1829171> [5]
- Waidyanatha S, Black SR, Patel PR, Rider CV, Watson SL, Snyder RW, Fennell TR. Disposition and metabolism of N-butylbenzenesulfonamide in Sprague Dawley rats and B6C3F1/N mice and in vitro in hepatocytes from rats, mice, and humans. *Toxicol Lett.* 2019; 319:225–236. <https://doi.org/10.1016/j.toxlet.2019.11.015> [5]
- Waidyanatha S, Black SR, Patel PR, Watson SL, Snyder RW, Sutherland V, Stanko J, Fennell TR. Disposition and metabolism of an antibacterial agent, triclocarban, in rodents: a species and route comparison. *Xenobiotica.* 2020; 50(12):1469–1482. <https://doi.org/10.1080/00498254.2020.1779391> [5]
- Waidyanatha S, Black SR, Silinski M, Sutherland V, Fletcher BL, Fernando RA, Fennell TR. Comparative toxicokinetics of bisphenol S in rats and mice following gavage administration. *Toxicol Appl Pharmacol.* 2020; 406:115207. <https://doi.org/10.1016/j.taap.2020.115207> [5]
- Waidyanatha S, Gibbs S, South N, Smith JP, Mutlu E, Burback B, Cao Y, Rider CV. Toxicokinetics of the plasticizer, N-butylbenzenesulfonamide, in plasma and brain following oral exposure in rodents: Route, species, and sex comparison. *Toxicol Rep.* 2020; 7:711–722. <https://doi.org/10.1016/j.toxrep.2020.05.005> [5]
- Waidyanatha S, McDonald JD, Sanders JM, Doyle-Eisele M, Moeller BC, Garner CE. Disposition and metabolism of 2,2'-Dimorpholinodiethyl ether in Sprague Dawley rats and B6C3F1/N mice after oral, intravenous administration, and dermal application. *Xenobiotica.* 2020; 50(11):1341–1351. <https://doi.org/10.1080/00498254.2020.1779389> [5]
- Waidyanatha S, Pierfelice J, Cristy T, Mutlu E, Burback B, Rider CV, Ryan K. A strategy for test article selection and phytochemical characterization of Echinacea purpurea extract for safety testing. *Food Chem Toxicol.* 2020; 137:111125. <https://doi.org/10.1016/j.fct.2020.111125> [5]
- Wallace Hayes A, Dixon D, Wang T. Loomis's essentials of toxicology. 5th ed. London (England): Academic Press; 2019. 1–260. <https://doi.org/10.1016/C2017-0-01670-1> [5]
- Walters JL, Chelonis JJ, Fogle CM, Ferguson SA, Sarkar S, Paule MG, Talpos JC. Acetyl-L-carnitine does not prevent neurodegeneration in a rodent model of prolonged neonatal anesthesia. *Neurotoxicol Teratol.* 2020; 80:106891. <https://doi.org/10.1016/j.ntt.2020.106891> [4]
- Wang C, Inselman A, Liu S, Liu F. Potential mechanisms for phencyclidine/ketamine-induced brain structural alterations and behavioral consequences. *Neurotoxicology.* 2020; 76:213–219. <https://doi.org/10.1016/j.neuro.2019.12.005> [4]
- Watson ATD, Sutherland VL, Cunny H, Miller-Pinsler L, Furr J, Hebert C, Collins B, Waidyanatha S, Smith L, Vinke T, et al. Postnatal effects of gestational and lactational gavage exposure to boric acid in the developing Sprague Dawley rat. *Toxicol Sci.* 2020; 176(1):65–73. <https://doi.org/10.1093/toxsci/kfaa061> [5]
- Weatherly LM, Shane HL, Friend SA, Lukomska E, Baur R, Anderson SE. Topical application of the antimicrobial agent triclosan induces NLRP3 inflammasome activation and mitochondrial dysfunction. *Toxicol Sci.* 2020; 176(1):147–161. <https://doi.org/10.1093/toxsci/kfaa056> [2]
- Wei Z, Liu X, Ooka M, Zhang L, Song MJ, Huang R, Kleinstreuer NC, Simeonov A, Xia M, Ferrer M. Two-dimensional cellular and three-dimensional bio-printed skin models to screen topical-use compounds for irritation potential. *Front Bioeng Biotechnol.* 2020; 8:109. <https://doi.org/10.3389/fbioe.2020.00109> [5]
- Wei Z, Sakamuru S, Zhang L, Zhao J, Huang R, Kleinstreuer NC, Chen Y, Shu Y, Knudsen TB, Xia M. Identification and profiling of environmental chemicals that inhibit the TGFbeta/SMAD signaling pathway. *Chem Res Toxicol.* 2019; 32(12):2433–2444. <https://doi.org/10.1021/acs.chemrestox.9b00228> [5]
- Wei Z, Zhao J, Niebler J, Hao JJ, Merrick BA, Xia M. Quantitative proteomic profiling of mitochondrial toxicants in a human cardiomyocyte cell line. *Front Genet.* 2020; 11:719. <https://doi.org/10.3389/fgene.2020.00719> [5]
- Wesselink AK, Fruh V, Hauser R, Weuve J, Taylor KW, Orta OR, Claus Henn B, Bethea TN, McClean MD, Williams PL, et al. Correlates of urinary concentrations of phthalate and phthalate alternative metabolites among reproductive-aged Black women from Detroit, Michigan. *J Expo Sci Environ Epidemiol.* 2020. <https://doi.org/10.1038/s41370-020-00270-9> [5]

- Whaley P, Aiassa E, Beausoleil C, Beronius A, Bilotta G, Boobis A, de Vries R, Hanberg A, Hoffmann S, Hunt N, et al. Recommendations for the conduct of systematic reviews in toxicology and environmental health research (COSTER). *Environ Int.* 2020; 143:105926. <https://doi.org/10.1016/j.envint.2020.105926> [5]
- Whiteside TE, Qu W, DeVito MJ, Bran SS, Bradham KD, Nelson CM, Travlos GS, Kissling GE, Kurtz DM. Elevated arsenic and lead concentrations in natural healing clay applied topically as a treatment for ulcerative dermatitis in mice. *J Am Assoc Lab Anim Sci.* 2020; 59(2):212–220. <https://doi.org/10.30802/aalas-jaalas-19-000068> [5]
- Xin X, Barger M, Roach KA, Bowers L, Stefaniak AB, Kodali V, Glassford E, Dunn KL, Dunn KH, Wolfarth M, et al. Toxicity evaluation following pulmonary exposure to an as-manufactured dispersed boron nitride nanotube (BNNT) material in vivo. *NanoImpact.* 2020; 19:100235. <https://doi.org/10.1016/j.impact.2020.100235> [2]
- Yamashita H, Surapureddi S, Kovari RC, Bhusari S, Ton TV, Li JL, Shockley KR, Peddada SD, Gerrish KE, Rider CV, et al. Unique microRNA alterations in hepatocellular carcinomas arising either spontaneously or due to chronic exposure to *Ginkgo biloba* extract (GBE) in B6C3F1/N mice. *Arch Toxicol.* 2020; 94(7):2523–2541. <https://doi.org/10.1007/s00204-020-02749-8> [5]
- Yan R, Wang Y, Duncan TV, Shieh YC. Effect of polymer and glass physicochemical properties on MS2 recovery from food contact surfaces. *Food Microbiol.* 2020; 87:103354. <https://doi.org/10.1016/j.fm.2019.103354> [4]
- Yanamala N, Desai IC, Miller W, Kodali VK, Syamlal G, Roberts JR, Erdely AD. Grouping of carbonaceous nanomaterials based on association of patterns of inflammatory markers in BAL fluid with adverse outcomes in lungs. *Nanotoxicology.* 2019; 13(8):1102–1116. <https://doi.org/10.1080/17435390.2019.1640911> [2]
- Yauk CL, Harrill AH, Ellinger-Ziegelbauer H, van der Laan JW, Moggs J, Froetschl R, Sistare F, Pettit S. A cross-sector call to improve carcinogenicity risk assessment through use of genomic methodologies. *Regul Toxicol Pharmacol.* 2020; 110:104526. <https://doi.org/10.1016/j.yrtph.2019.104526> [5]
- Yi J, Duling MG, Bowers LN, Knepp AK, LeBouf RF, Nurkiewicz TR, Ranpara A, Luxton T, Martin SB, Jr, Burns DA, et al. Particle and organic vapor emissions from children's 3-D pen and 3-D printer toys. *Inhal Toxicol.* 2019; 31(13–14):432–445. <https://doi.org/10.1080/08958378.2019.1705441> [2]
- Yokel RA, Tseng MT, Butterfield DA, Hancock ML, Grulke EA, Unrine JM, Stromberg AJ, Dozier AK, Graham UM. Nanoceria distribution and effects are mouse-strain dependent. *Nanotoxicology.* 2020; 14(6):827–846. <https://doi.org/10.1080/17435390.2020.1770887> [2]
- Yorio PL, Fisher EM, Kilinc-Balci FS, Rottach D, Harney J, Seaton M, Dahm MM, Niemeier T. Planning for epidemics and pandemics: Assessing the potential impact of extended use and reuse strategies on respirator usage rates to support supply-and-demand planning efforts. *J Int Soc Respir Prot.* 2020; 37(1):52–60. <http://www.ncbi.nlm.nih.gov/pubmed/32508390> [2]
- You D, Lyn-Cook LE, Gatti DM, Bell N, Mayeux PR, James LP, Mattes WB, Larson GJ, Harrill AH. Nitrosative stress and lipid homeostasis as a mechanism for zileuton hepatotoxicity and resistance in genetically sensitive mice. *Toxicol Sci.* 2020; 175(2):220–235. <https://doi.org/10.1093/toxsci/kfaa037> [5]
- Zhang AJ, Aschenbeck KA, Law BF, B'Hymer C, Siegel PD, Hylwa SA. Urushiol compounds detected in toxicodendron-labeled consumer products using mass spectrometry. *Dermatitis.* 2020; 31(2):134–139. <https://doi.org/10.1097/der.0000000000000544> [2]
- Zhang Y, Sherwin CM, Gonzalez D, Zhang Q, Khurana M, Fisher J, Burckart GJ, Wang Y, Yao LP, Ganley CJ, et al. Creatinine-based renal function assessment in pediatric drug development: An analysis using clinical data for renally eliminated drugs. *Clin Pharmacol Ther.* 2021; 109(1):263–269. <https://doi.org/10.1002/cpt.1991> [4]
- Zheng L, Kulkarni P. Real-time measurement of airborne carbon nanotubes in workplace atmospheres. *Anal Chem.* 2019; 91(20):12713–12723. <https://doi.org/10.1021/acs.analchem.9b02178> [2]
- Zhuang W, Camacho L, Silva CS, Hong H. Reproducibility challenges for biomarker detection with uncertain but informative experimental data. *Biomark Med.* 2020; 14(13):1255–1263. <https://doi.org/10.2217/bmm-2019-0599> [4]